

Synergistically active herbicidal mixtures

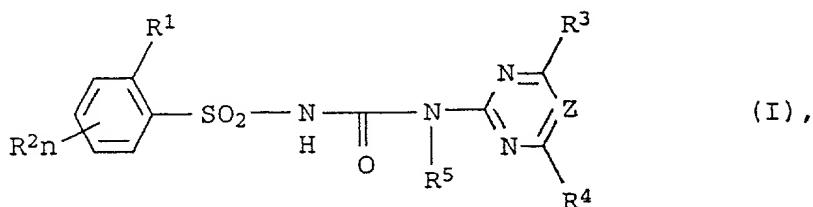
Abstract

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A herbicidal mixture comprising

a) at least one derivative of a sulfonylurea of the formula I

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where the substituents have the following meanings:

R¹ is C₁-C₆-alkyl which has attached to it one to five of
the following groups: methoxy, ethoxy, SO₂CH₃, cyano,
chlorine, fluorine, SCH₃, S(O)CH₃;

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halogen;

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a group ER⁶ where E is O, S or NR⁷;COOR⁸;NO₂;

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S(O)_oR⁹, SO₂NR¹⁰R¹¹, CONR¹⁰R¹¹;

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R² is hydrogen, C₁-C₄-alkyl, C₂-C₄-alkenyl, C₂-C₄-alkynyl, halogen, C₁-C₄-alkoxy, C₁-C₄-haloalkoxy; C₁-C₄-haloalkyl, a C₁-C₂-alkylsulfonyl group, nitro, cyano or C₁-C₄-alkylthio;

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R³ is F, CF₃, CF₂Cl, CF₂H, OCF₃, OCF₂Cl, or, if R¹ is CO₂CH₃ and R² is simultaneously fluorine, R³ is Cl, or, if R¹ is CH₂CF₃ or CF₂CF₃, R³ is methyl, or, if R⁴ is OCF₃ or OCF₂Cl, R³ is OCF₂H or OCF₂Br;

R⁴ is C₁-C₂-alkoxy, C₁-C₂-alkyl, C₁-C₂-alkylthio, C₁-C₂-alkylamino, di-C₁-C₂-alkylamino, halogen, C₁-C₂-haloalkyl, C₁-C₂-haloalkoxy,

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R⁵ is hydrogen, C₁-C₂-alkoxy, C₁-C₄-alkyl;

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- R⁶ is C₁-C₄-alkyl, C₂-C₄-alkenyl, C₂-C₄-alkynyl or C₃-C₆-cycloalkyl, all of which can have attached to them 1 to 5 halogen atoms, with the exception of allyl, difluoromethoxy, chlorodifluoromethoxy and 5 2-chloroethoxy, if E is O or S. In the event that E is O or NR⁷, R⁶ is furthermore also methylsulfonyl, ethylsulfonyl, trifluoromethylsulfonyl, allylsulfonyl, propargylsulfonyl or dimethylsulfamoyl;
- 10 R⁷ is hydrogen, methyl or ethyl
- R⁸ is a C₁-C₆-alkyl group which can have attached to it up to three of the following radicals: halogen, C₁-C₄-alkoxy, C₁-C₄-alkylthio, C₁-C₄-haloalkoxy, 15 C₁-C₄-alkoxy-C₁-C₂-alkoxy, C₃-C₇-cycloalkyl and/or phenyl; a C₅-C₇-cycloalkyl group which can have attached to it up to three C₁-C₄-alkyl groups; C₃-C₆-alkenyl or C₃-C₆-alkynyl;
- 20 R⁹ is a C₁-C₆-alkyl group which can have attached to it one to three of the following radicals: halogen, C₁-C₄-alkoxy, C₁-C₄-alkylthio, C₁-C₄-haloalkoxy, C₁-C₄-alkoxy-C₁-C₂-alkoxy, C₃-C₇-cycloalkyl and/or phenyl; 25 a C₅-C₇-cycloalkyl group which can have attached to it one to three C₁-C₄-alkyl groups; C₃-C₆-alkenyl or C₃-C₆-alkynyl;
- 30 R¹⁰ is hydrogen, C₁-C₂-alkoxy, C₁-C₆-alkyl, or together with R¹¹ is a C₄-C₆-alkylene chain in which one methylene group can be replaced by an oxygen atom or a C₁-C₄-alkylimino group;
- R¹¹ is a C₁-C₄-alkyl group which can have attached to it one to four halogen or C₁-C₄-alkoxy radicals; C₃-C₆-cycloalkyl 35
- n is 0 - 3
- o is 1 - 2
- 40 Z N or CH,
or their environmentally compatible salts

and
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- b) a synergistically active amount of at least one herbicidal compound selected from the groups b1 to b41 which have been given in claim 1, herbicidal compositions, and methods of controlling undesirable vegetation.

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